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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,968	12/11/2003	Harold R. Pilley		8797

7590

06/21/2004

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EXAMINER

CHIN, GARY

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,968

Applicant(s)

PILLEY ET AL.

Examiner

Gary Chin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Applicant is required to correct the abstract in the instant specification based upon the aforementioned language and format.

Claim Rejections - 35 USC § 112

2. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1-2, both on step (f), the recitation therein is contextually unclear and is suggested to change it to read "calculating the differential corrections in said Differential GPS base station". Further, in step (h) of both claims, the antecedent basis for "said vehicle" has not been set forth in these claims. Still further, in step (l) of both claims, it is unclear as to what the "3-dimensional position, 2-dimensional horizontal position, vertical position, 3-dimensional velocity, speed, heading, vertical rate and time" are associated with. Moreover, the "GNSS signals", "GNSS antenna" and "differential GNSS receiver" in step (j) of claim 1 appear to be "GPS signals", "GPS antenna" and "differential GPS receiver" respectively. Similarly, "GNSS

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reference antenna" in step (d) of claim 2 should be "GPS reference antenna". Finally, in step (m) of claim 1, "said digital map" lacks proper antecedent basis and should be changed to "said airport map" in order to rectify the problem.

As per claim 3, the preamble is directed to an airport navigation system, however, there is no recitation in the body of the claim as to how the airport navigation is being implemented by the recited structural elements. Further, the terms "psuedorange corrections" in (e) and "said differentially corrected GPS" in (i) should be "said psuedorange corrections" and "said differentially corrected position" respectively in order to avoid the antecedent basis problem.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claim 3 as best understood in view of the aforementioned 112 deficiencies is rejected under 35 U.S.C. 102(e) as being anticipated by Shiomi et al (patent no. 5677841).

As per claim 3, figure 5 of the Shimi et al reference clearly discloses the claimed airport navigation system including a GPS antenna used to receive broadcast signals from the GPS satellites (see the antenna on top of the DGPS ground station), a differential GPS base station (item 21), means to calculate differential corrections (item 213) within the differential GPS base station and send the psuedorange corrections to a radio transmitter (item 215) connected to the differential GPS base station, a radio receiver (item 115) located on an aircraft to receive the

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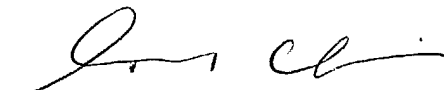
psuedorange corrections and an onboard differential GPS receiver (item 111) to calculate a differentially corrected position. Further, the claimed means to navigate the aircraft or vehicle is inherent in the aircraft itself.

5. The additional reference(s) is/are cited to show the related system(s). Applicant(s) should consider them carefully when responding to the current office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Chin whose telephone number is (703) 305-9751. The examiner can normally be reached on Monday-Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GARY CHIN
PRIMARY EXAMINER